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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,042	01/15/2002	Armin Schlemmer	P21790	2920

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GREENBLUM & BERNSTEIN, P.L.C.
1950 ROLAND CLARKE PLACE
RESTON, VA 20191

EXAMINER

ROSS, DANA

ART UNIT PAPER NUMBER

3722

DATE MAILED: 10/16/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/045,042	Applicant(s) SCHLEMMER ET AL.	
	Examiner Dana Ross	Art Unit 3722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

1. This is a third office action, final rejection on Application No. 10/045042 in response to the amendment filed on October 1, 2003. The previous final office action is withdrawn due to Applicant's priority documents. Examiner's proposed Amendment is withdrawn in view of new art rejections.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, it is unclear as set forth in the claim how the thickness is being measured. Specifically, the claim sets forth that a thickness of said indexable tip "from said support surface to said acute angles" is greater than a thickness of said indexable tip "from said support surface to said obtuse corner angles". However, it is unclear in what regard a thickness from the claimed support surface "to" the claimed "angles" can be measured. In other words, it appears that the claim is setting forth that the thickness is measured from a surface to an angle. Note that as shown in Figure 3, for example, the angle at corner 45 intersects the support surface 41, and thus, there is no thickness that can be measured between the angle and the support surface. It appears that the thickness is actually measured --at-- (emphasis added) these corner angles from the support surface to another opposite face.

*Providing
Language
to Clarify*

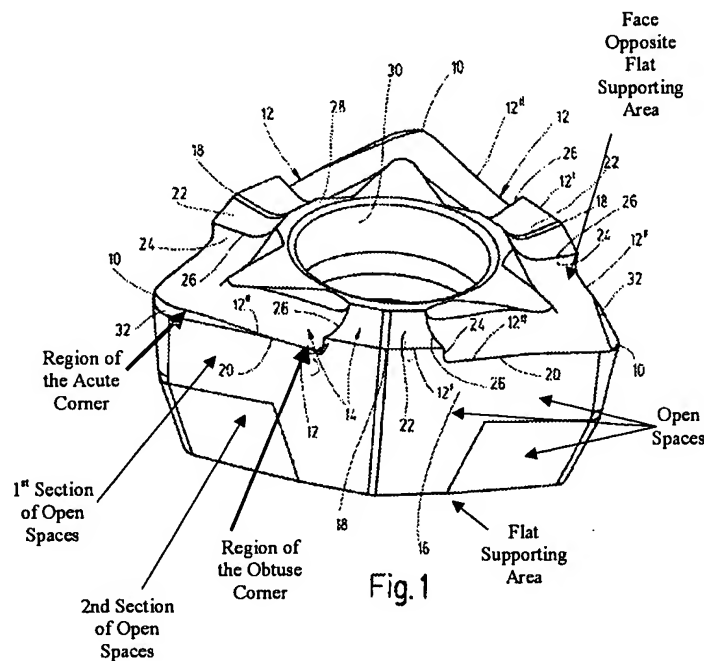
Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 18-21 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by PCT WO 98/51438 (Baxivanelis et al.). Since an English translation was not available at the time of Examination, the references will be made to English Equivalent document U.S. Pat. No. 6,224,300 (Baxivanelis et al.). Baxivanelis et al. teaches a hexagonal indexable insert with alternating obtuse and acute corner angles (fig. 1, col. 3, line 64 to col. 4, line 7) with a region of the acute corner angles is thicker than a region of the obtuse corner angles (fig. 1 and 2) with an attachment hole 30 (col. 3, lines 58-60). See figure 1 below.



Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 22-24 and 31-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT WO 98/51438 (Baxivanelis et al.) Since an English translation was not available at the time of Examination, the references will be made to English Equivalent document U.S. Pat. No. 6,224,300 (Baxivanelis et al.) In regards to claims 22-24, Baxivanelis et al. teaches all aspects of the above claim 18 rejection. Baxivanelis et al. teaches the alternating rounded obtuse and acute angles, and the acute angles are in the range of 75° to 88° (col. 1, lines 60-64) and the obtuse angles in the range of 70° to 88° (col. 2, lines 3-8).

In regards to claims 31-38, Baxivanelis et al. teaches the angle of the open spaces in regards to a straight line normal to the supporting area at the cutting edges is δ degrees (fig. 4b). Baxivanelis et al. does not limit the size of the angle.

There is nothing limiting the structure of Baxivanelis et al. from having acute angles of 88° +/- 1.7°, 0.5° or 0.3° or the open space angles between 5 and 12 degrees. Therefore it would have been obvious to modify the insert as taught by Baxivanelis et al. to include the claimed angle ranges since there is nothing limiting Baxivanelis et al. from having the claimed ranges and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

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8. Claims 25-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over PCT WO 98/51438 (Baxivanelis et al.) and in view of U.S. Pat. No. 4,776,732 (Hale). Since an English translation was not available at the time of Examination, the references will be made to English Equivalent document U.S. Pat. No. 6,224,300 (Baxivanelis et al.) Baxivanelis et al. teaches all aspects of the above claim 18 rejection.

In regard to claims 25-30, Baxivanelis et al. teaches the cutting corners 10 and cutting edge 20 oriented at an angle to the bottom support area (fig.1). There is nothing limiting the structure of Baxivanelis et al. from having the cutting edges oriented at an angle of between 2° and 18° to the bottom support area.

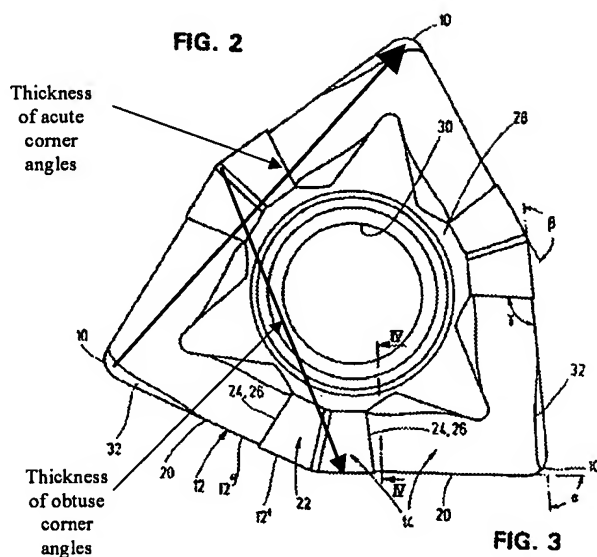
In addition, Hale teaches the angles between the cutting edge and supporting area up to 12°, preferably being 2° to 10° with the preferred angle of the taper about 5° (col. 4, lines 20-23).

Therefore it would have been obvious to modify the insert as taught by Baxivanelis et al. to include the claimed angle ranges since there is nothing limiting Baxivanelis et al. from having the claimed ranges and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Furthermore, it is well known in the art to use the ranges as claimed as is taught by Hale. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to use the insert as taught by Baxivanelis et al. and to include the angles as taught by Hale for the purpose of balancing the forces on the cutting edges on either side of the obtuse angle for the purpose of accounting for the variation of the chip breaker at different speeds because of different radial distances from the turning axis (see Hale, col. 1, lines 60-65).

In regards to claims 31-38, Baxivanelis et al. teaches the open spaces (see fig. 1 above) of the insert comprises a first section (see fig. 1 above) bordering the cutting edge 10 and forming an angle with a second section (see fig. 1 above) bordering the support area. Baxivanelis does not specify the range for this angle. There is nothing limiting Baxivanelis from having a range as claimed. Hale teaches that it is well known in the art to have side faces 217^β degrees from a line normal to the supporting area 215 (fig. 3, col. 3, lines 24-29). Therefore it would have been obvious to modify the insert as taught by Baxivanelis et al. to include the claimed angle ranges since there is nothing limiting Baxivanelis et al. from having the claimed ranges and since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Furthermore, it is well known in the art to use the range of β degrees as is taught by Hale. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made, to use the insert as taught by Baxivanelis et al. and to include the angles as taught by Hale for the purpose of providing clearance during drilling (see Hale, col. 3, lines 11-24).

9. Claims 1-17 and 40 rejected under 35 U.S.C. 103(a) as being PCT WO 98/51438 (Baxivanelis et al.) in view of U.S. Pat. No. 6,464,433 (Shaffer). Since an English translation was not available at the time of Examination, the references will be made to English Equivalent document U.S. Pat. No. 6,224,300 (Baxivanelis et al.).

Baxivanelis et al. teaches a hexagonal indexable insert with alternating obtuse and acute corner angles (fig. 1, col. 3, line 64 to col. 4, line 7) with a thickness from the support surface to the acute corner angles is thicker than a thickness from support surface to the obtuse corner angles (fig. 3 below).



Baxivanelis et al. teaches the indexable tip comprises alternately obtuse and acute corners and six straight cutting edges (fig. 3 above).

Baxivanelis teaches at least one cutting edge 12 comprises three cutting edges, cutting corner 10 and two cutting edge sections 20 (col. 3, lines 1-5, fig. 1).

Baxivanelis et al. teaches the alternating rounded obtuse and acute angles, and the acute angles an in the range of 75° to 88° (col. 1, lines 60-64).

Baxivanelis et al. teaches a hexagonal insert (fig. 1) with at least one circumferential cutting edge 10 oblique to a side support surface (fig. 1). While Baxivanelis et al. does teach that the insert is used in a cutting tool (col. 2, lines 40-42) Baxivanelis et al. is silent as to the details of the tool. Additionally, Baxivanelis et al. doesn't quantify the relative dimensions of the insert width and thickness.

Shaffer teaches a cutting tool for drilling and turning, comprising a base body 24 comprising a clamping part 40 (fig. 1) and a cylindrical working part 26 (fig. 3) axially spaced

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from each other; and an indexable tip 28, releasably connected to the working part 26, having at least one circumferential cutting edge (fig. 2, col. 3, lines 24-36).

Shaffer teaches the working part 26 essentially cylindrical (fig. 3), and the indexable tip 28 positioned at an end of the working part remote from the clamping part 40 (fig. 2) with the working part 26 comprising a flute running in a direction of a tool axis and a form-locking seat for the indexable tip 28 (fig. 3), wherein the indexable tip 28 is seated on the working part 26, at least one cutting edge slightly projects from the working part (fig. 2 and 3) and the flute running in a direction of the tool axis is formed with a twist (fig. 2).

Shaffer teaches the base body 24 comprises at least one bore 42 for inserting at least one of coolant and lubricant, and an exit 46 obliquely arranged relative to the tool axis directed at the indexable tip (col. 3, lines 43-51).

Shaffer teaches a cutting tool with a working part elongated in the axial direction having a seat parallel to the axial direction (fig. 2).

Shaffer teaches the working part 26 and Baxivanelis teaches the hexagonal indexable. Baxivanelis et al. in view of Shaffer does not teach the dimensions of the indexable tips or the greatest width of the indexable tip in comparison to the working part. It would have been an obvious matter of design choice to increase or decrease the greatest size of the hexagonal indexable tip as taught by Baxivanelis, since such a modification would have involved a mere change in the size of the component. A change in size is generally recognized as being within the level of ordinary skill in the art. In re Rose, 105 USPQ 237 (CCPA 1955).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the specific toolholder taught by Shaffer for the generic

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tool taught by Baxivanelis et al. for the purpose of providing a boring bar with an optimum degree of straightness, thereby increasing its useful life and providing for the optimum removal of material (see Shaffer col. 1, lines 46-67 for example).

Response to Arguments

10. Applicant's arguments with respect to claims 1-40 have been considered but are moot in regards to claims 1- 40 in view of the new ground(s) of rejection.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Ross whose telephone number is (703) 305-7764. The examiner can normally be reached on Mon-Fri 7:00am - 3:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrea Wellington can be reached on (703) 308-2159. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

dmr 


ERICA CADUGAN
PATENT EXAMINER